WHAT IS CLAIMED IS:

1. An optical fiber coupling part, wherein a GRIN lens is fusion-spliced with one end of an optical fiber, the GRIN lens having numerical aperture NA larger than the numerical aperture NAs of at least one light-emitting source.

2. The optical fiber coupling part according to claim 1, wherein the numerical aperture NA is 0.43 or more.

3. The optical fiber coupling part according to either of claim 1 or 2, wherein the GRIN lens has a coefficient of thermal expansion expressed by $15 \times 10^{-7}K^{-1}$ or less, and is formed by a sol-gel method.

4. An optical fiber coupling part, wherein a second GRIN lens having numeral aperture NA2 is fusion-spliced with one end of an optical fiber having numerical aperture NAf, and further a first GRIN lens having numerical aperture NA1 larger than NA2 is fusion-spliced with the other end of the second GRIN lens.

5. The optical fiber coupling part according to claim 4, wherein the numerical aperture (NAf) of the optical fiber, the numerical aperture (NA1) of the first GRIN lens, the numerical aperture (NA2) of the second GRIN lens, and the numerical aperture (NAs) of a light-emitting source are

composed to satisfy formula expressed by

NAf $\leq$ NA2 < NAs $\leq$ NA1.

6. The optical fiber coupling part according to either of claim 4 or claim 5, wherein the numerical aperture NA1 of the first GRIN lens is 0.43 or more.

7. The optical fiber coupling part according to any one of claims 4 to 6, wherein length Z1 of the first GRIN lens satisfies formula expressed by:

Z1 = (no*d1/NA1) arctan (d1/(NA1*L))

where refractive index of a glass of a center part is set at no, radius of a lens 1 is set at d1, and distance between the lens and the light emitting source is set at L.

8. The optical fiber coupling part according to claim 7, wherein length Z2 of the second GRIN lens is the length of nearly 1/4 as long as a zigzag cycle of a light beam propagated through the lens or the length of odd number times of it.

9. The optical fiber coupling part according to any one of claims 4 to 8, wherein the first and second GRIN lenses have a coefficient of thermal expansion expressed by $15 \times 10^{-7}K^{-1}$ or less, and at lest the first GRIN lens is made by a sol-gel method.

10. The optical fiber coupling part according to any one of claims 1 to 9, wherein the optical fiber corresponds to a single mode optical fiber.